



[4910-13-P]

## **DEPARTMENT OF TRANSPORTATION**

### **Federal Aviation Administration**

#### **14 CFR Part 39**

**[Docket No. FAA-2019-0663; Product Identifier 2018-SW-057-AD]**

**RIN 2120-AA64**

#### **Airworthiness Directives; Sikorsky Aircraft Corporation Helicopters**

**AGENCY:** Federal Aviation Administration (FAA), DOT.

**ACTION:** Notice of proposed rulemaking (NPRM).

**SUMMARY:** The FAA proposes to adopt a new airworthiness directive (AD) for certain Sikorsky Aircraft Corporation (Sikorsky) Model S-70, S-70A, S-70C, S-70C(M), and S-70C(M1) helicopters. This proposed AD was prompted by four incidents of disbonding between the tail rotor (T/R) blade pitch horn and the torque tube. This proposed AD would require recurring visual and tap inspections of the T/R blade, and depending on the outcome, replacing the T/R blade. The FAA is proposing this AD to address the unsafe condition on these products.

**DATES:** The FAA must receive comments on this proposed AD by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

**ADDRESSES:** You may send comments, using the procedures found in 14 CFR 11.43 and 11.45, by any of the following methods:

- Federal eRulemaking Portal: Go to <http://www.regulations.gov>. Follow the instructions for submitting comments.
- Fax: 202-493-2251.

- Mail: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE., Washington, DC 20590.

- Hand Delivery: Deliver to Mail address above between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

For service information identified in this NPRM, contact your local Sikorsky Field Representative or Sikorsky's Service Engineering Group at Sikorsky Aircraft Corporation, 124 Quarry Road, Trumbull, CT 06611; telephone 1-800-Winged-S or (203) 416-4299; email [wcs\\_cust\\_service\\_eng.gr-sik@lmco.com](mailto:wcs_cust_service_eng.gr-sik@lmco.com). You may view this service information at the FAA, Office of the Regional Counsel, Southwest Region, 10101 Hillwood Pkwy, Room 6N-321, Fort Worth, TX 76177. For information on the availability of this material at the FAA, call (817) 222-5110.

### **Examining the AD Docket**

You may examine the AD docket on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2019-0663; or in person at Docket Operations between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this NPRM, the regulatory evaluation, any comments received, and other information. The street address for Docket Operations is listed above. Comments will be available in the AD docket shortly after receipt.

**FOR FURTHER INFORMATION CONTACT:** Kristopher Greer, Aviation Safety Engineer, Boston ACO Branch, Compliance & Airworthiness Division, FAA, 1200 District Avenue, Burlington, MA 01803; telephone (781) 238-7799; email [kristopher.greer@faa.gov](mailto:kristopher.greer@faa.gov).

## **SUPPLEMENTARY INFORMATION:**

### **Comments Invited**

The FAA invites you to send any written relevant data, views, or arguments about this proposal. Send your comments to an address listed under the ADDRESSES section. Include “Docket No. FAA-2019-0663; Product Identifier 2018-SW-057-AD” at the beginning of your comments. The FAA specifically invites comments on the overall regulatory, economic, environmental, and energy aspects of this NPRM. The FAA will consider all comments received by the closing date and may amend this NPRM because of those comments.

The FAA will post all comments the FAA receives, without change, to <http://www.regulations.gov>, including any personal information you provide. The FAA will also post a report summarizing each substantive verbal contact the FAA receives about this NPRM.

### **Discussion**

The FAA proposes to adopt a new AD for Sikorsky Model S-70, S-70A, S-70C, S-70C(M), and S-70C(M1) helicopters with T/R blade part number 70101-31000 (all dash numbers) and with a serial number up to and including A009-08915.

This proposed AD is prompted by four incidents of disbonding between the T/R blade pitch horn and the torque tube on Model UH-60L and SH-60F helicopters. The disbonding produced minor to severe vibrations due to the mass imbalance. This condition may also occur on Sikorsky Model S-70, S-70A, S-70C, S-70C(M), and S-70C(M1) helicopters due to design similarity.

Disbonding between the T/R blade pitch horn and the torque tube, if not addressed, could result in the T/R blade pitch horn rocking in the torque tube, leading to increased T/R vibrations. These vibrations could lead to crushing of the torque tube and subsequent loss of control of the helicopter. While Sikorsky continues to test T/R blades returned from the field, investigation has revealed blades produced prior to manufacturing improvements implemented between 2006 and 2007 are prone to this disbonding. To address this condition, Sikorsky is assessing design change options to retrofit the affected T/R blades.

### **Related Service Information**

The FAA reviewed Sikorsky Aircraft Model S-70 Blackhawk Derivatives Maintenance Manual Temporary Revision No. 72, dated October 12, 2017. This service information specifies replacing a 10-hour/14-day T/R inspection with a before first flight of the day T/R inspection.

The FAA also reviewed section 5-3-13.2 Coin-Tapping Inspection Method of Sikorsky Technical Manual TM 1-70-23-3, Change 12, dated July 1, 2018. This service information specifies procedures for coin-tap inspecting T/R blades. This service information also specifies general repair limits and includes figures illustrating the different types of materials of the T/R blade skin and core regions.

### **FAA's Determination**

The FAA is proposing this AD because the FAA evaluated all the relevant information and determined the unsafe condition described previously is likely to exist or develop in other products of these same type designs.

## **Proposed AD Requirements**

This proposed AD would require, before the first flight of each day, visually inspecting each T/R blade for any crack, leading edge erosion, and trailing edge skin disbonding and separation, paying particular attention to the area from the midspan to the pitch control horn; and tap inspecting for disbonding in the pitch horn to torque tube bond area. Depending on the outcome of these inspections, this proposed AD would require replacing the T/R blade.

## **Interim Action**

The FAA considers this proposed AD interim action. The design approval holder is currently developing a modification that will address the unsafe condition identified in this AD. Once this modification is developed, approved, and available, we might consider additional rulemaking.

## **Costs of Compliance**

The FAA estimates that this proposed AD affects 13 helicopters of U.S. registry. The FAA estimates the following costs to comply with this proposed AD. Labor costs are estimated at \$85 per work-hour.

Inspecting the T/R blades would take about 1 work-hour for an estimated cost of \$85 per helicopter and \$1,105 for the U.S. fleet, per inspection cycle. Replacing a set of two T/R blades would take about 6 work-hours and parts would cost about \$192,304 for an estimated cost of \$192,814 per helicopter.

## **Authority for this Rulemaking**

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator.

Subtitle VII: Aviation Programs, describes in more detail the scope of the Agency's authority.

The FAA is issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701: General requirements. Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

### **Regulatory Findings**

The FAA determined that this proposed AD would not have federalism implications under Executive Order 13132. This proposed AD would not have a substantial direct effect on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify this proposed regulation:

- (1) Is not a "significant regulatory action" under Executive Order 12866,
- (2) Will not affect intrastate aviation in Alaska, and
- (3) Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

### **List of Subjects in 14 CFR Part 39**

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

## **The Proposed Amendment**

Accordingly, under the authority delegated to me by the Administrator, the FAA proposes to amend 14 CFR part 39 as follows:

### **PART 39 - AIRWORTHINESS DIRECTIVES**

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

#### **§ 39.13 [Amended]**

2. The FAA amends § 39.13 by adding the following new airworthiness directive (AD):

**Sikorsky Aircraft Corporation:** Docket No. FAA-2019-0663; Product Identifier 2018-SW-057-AD.

#### **(a) Comments Due Date**

The FAA must receive comments by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE Federal Register].

#### **(b) Affected ADs**

None.

#### **(c) Applicability**

This AD applies to Model S-70, S-70A, S-70C, S-70C(M), and S-70C(M1) helicopters, certificated in any category, with a tail rotor (T/R) blade part number 70101-31000 (all dash numbers) with a serial number (S/N) up to and including A009-08915.

Note 1 to paragraph (c) of this AD: Each T/R blade is marked with the S/N.

#### **(d) Subject**

Joint Aircraft System Component (JASC): 6410, Tail Rotor Blades.

**(e) Unsafe Condition**

This AD was prompted by four incidents of disbonding between the T/R blade pitch horn and the torque tube. The FAA is issuing this AD to detect disbonding. The unsafe condition, if not addressed, could result in increased T/R vibrations, physical failure of the torque tube, and subsequent loss of control of the helicopter.

**(f) Compliance**

Comply with this AD within the compliance times specified, unless already done.

**(g) T/R Blade Inspection**

Before the first flight of each day:

(1) Visually inspect each T/R blade for a crack, leading edge erosion, and trailing edge skin disbonding and separation, paying particular attention to the area from the midspan to the pitch control horn. If there is a crack, any leading edge erosion, trailing edge disbonding, or trailing edge separation, before further flight, replace the T/R blade with an airworthy part.

(2) Tap test inspect each T/R blade for disbonding in the pitch horn to torque tube bond area. If there is any disbonding, before further flight, replace the T/R blade with an airworthy part.

**(h) Alternative Methods of Compliance (AMOCs)**

(1) The Manager, Boston ACO Branch, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. If sending information directly to the



manager of the certification office, send it to the attention of the person identified in paragraph (i)(1) of this AD.

(2) Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office.

**(i) Related Information**

(1) For more information about this AD, contact Kristopher Greer, Aviation Safety Engineer, Boston ACO Branch, Compliance & Airworthiness Division, FAA, 1200 District Avenue, Burlington, MA 01803; telephone (781) 238-7799; email [kristopher.greer@faa.gov](mailto:kristopher.greer@faa.gov)

(2) For service information identified in this AD, contact your local Sikorsky Field Representative or Sikorsky's Service Engineering Group at Sikorsky Aircraft Corporation, 124 Quarry Road, Trumbull, CT 06611; telephone 1-800-Winged-S or (203) 416-4299; email [wcs\\_govt\\_field\\_serv\\_eng.gr-sik@lmco.com](mailto:wcs_govt_field_serv_eng.gr-sik@lmco.com). You may view this referenced service information at the FAA, Office of the Regional Counsel, Southwest Region, 10101 Hillwood Pkwy, Room 6N-321, Fort Worth, TX 76177. For information on the availability of this material at the FAA, call (817) 222-5110.

Issued in Fort Worth, Texas, on August 23, 2019.

Lance T. Gant,

Director, Compliance & Airworthiness Division,  
Aircraft Certification Service.

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